Amendments to the Claims

1. (Currently Amended) A method for finding a region of high importance in a video, the video including a plurality of video frames having pixels, wherein the video is regarded as a three dimensional volume in a x-y-t space, the t-component of the x-y-t space representing a time axis, comprising:

using a microprocessor to carry out the steps of:

determining a kinetic energy for the pixels within the video;

assigning pixel values to the pixels within the video based on the kinetic energy of the pixels;

constructing pixel groups from the pixels based on the pixel values, wherein the pixels having pixel values below a threshold value are not included in any pixel group;

merging pixel groups together to generate regions of high importance, wherein the pixel groups are merged together provided that they do not fail one or more stopping conditions;

wherein the one or more stopping conditions comprises a minimum threshold energy density for the merged pixel groups; and

constructing one or more predetermined three-dimensional shapes to represent the regions of high importance, the predetermined three-dimensional shapes having three dimensional volumes in the x-y-t space.

2. (Cancelled)

3. (Previously Presented) The method of claim 1 wherein the kinetic energy for each pixel is determined using pixel luminance values.

4. (Previously Presented) The method of claim 1 wherein assigning pixel values includes:

assigning each pixel a value within a predetermined range.

5. (Previously Presented) The method of claim 4 wherein the range is zero to one, each pixel assigned a value of one if it has a higher than average kinetic energy.

6. (Original) The method of claim 1 wherein assigning pixel values includes:

quantizing the pixel values as either having a value of zero or one.

7. (Previously Presented) The method of claim 1 wherein constructing pixel groups includes:

forming a group of neighboring pixels that have a kinetic energy within a first range.

8. (Original) The method of claim 7 wherein neighboring pixels are within 1 pixel from each other.

9. (Previously Presented) The method of claim 7 wherein the first range is a higher than average kinetic energy.

10. (Cancelled)

11. (Previously Presented) The method of claim 1 wherein the one or more predetermined three dimensional shapes are boxes having rectangular sides.

12. (Cancelled)

13. (Previously Presented) The method of claim 1 wherein merging pixel groups includes:

merging groups of pixels that meet a minimum volume threshold.

wherein the one or more stopping conditions comprises a maximum threshold volume for the merged pixel groups.

14. (Previously Presented) The method of claim 1 wherein the video is segmented into at least one clip.

15. (Previously Presented) The method of claim 3 wherein obtaining the kinetic energy comprises calculating the change in luminance between video frames.

16. (Previously Presented) The method of claim 15 wherein calculating the change in luminance comprises calculating the change in luminance between video frames in the t-component of the x-y-t space.

17. (Previously Presented) The method of claim 15 wherein calculating the change in luminance comprises calculating the change in luminance for each pixel using all said x-y-t components of the x-y-t space.

18. (Previously Presented) The method of claim 1 wherein the kinetic energy determined for each pixel comprises a residual motion velocity.

19. (Currently Amended) A method for finding a region of high importance in a video, the video including a plurality of video frames having pixels, wherein the video is regarded as a three dimensional volume in a x-y-t space, the t-component of the x-y-t space representing a time axis, comprising:

using a microprocessor to carry out the steps of:

segmenting the video into at least one video clip;

determining a kinetic energy for the pixels within each video clip, wherein the kinetic energy is determined using pixel luminance values;

assigning pixel values to the pixels, wherein each pixel having a higher than average kinetic energy for a particular clip is assigned a value of one and the remaining pixels are assigned a value of zero;

constructing pixel groups from pixels having a value of one, wherein the pixels having a value of one are grouped together if they are within one pixel from each other, wherein the pixels having a value of zero are not included in any pixel group; and

merging pixel groups to generate regions of high importance, wherein the pixel groups are merged together provided that they do not fail one or more stopping conditions, wherein the one or more stopping conditions comprises a minimum threshold energy density and a maximum threshold volume for the merged pixel groups; and

constructing one or more three dimensional boxes to represent the regions of high importance, the three dimensional boxes having three dimensional volumes in the x-y-t space.

20. (Currently Amended) A method for finding a region of high importance in a video, the video including a plurality of video frames having pixels, wherein the video is regarded as a

three dimensional volume in a x-y-t space, the t-component of the x-y-t space representing a time axis, comprising:

using a microprocessor to carry out the steps of:

determining a kinetic energy for the pixels within the video;

assigning pixel values to the pixels within the video based on the kinetic energy of the pixels;

constructing pixel groups from the pixels based on the pixel values, wherein the pixels having pixel values below a threshold value are not included in any pixel group;

merging pixel groups together to generate regions of high importance, wherein the pixel groups are merged together provided that they do not fail one or more stopping conditions, wherein the merged pixel groups meet a minimum volume threshold;

wherein the one or more stopping conditions comprises a maximum threshold volume for the merged pixel groups; and

constructing one or more predetermined three-dimensional shapes to represent the regions of high importance, the predetermined three-dimensional shapes having three dimensional volumes in the x-y-t space.